C1 information obtained from cells of a patient suspected of having a disease to information obtained from cells of suspected healthy patients.

8. (Amended) The method suitable for facilitating disease diagnosis of claim 1, wherein said marking step includes adding fluorescent material to at least some of the chromosome broken ends.

C2 9. (Amended) The method suitable for facilitating disease diagnosis of claim 1, wherein said marking step includes adding dNTP to at least a portion of the broken ends and exposing the broken ends to fluoresceinated material.

10. (Amended) The method suitable for facilitating disease diagnosis of claim 1, wherein said analyzing step includes automatically measuring a number of marked chromosome broken ends.

Sub D2 11. (Thrice Amended) A method for analyzing an effect of disease on cells, the method comprising the steps of:

C3 preparing cells suspected of being affected by a disease for which chromosome damage is diagnostic by exposing the cells to a chromosome breakage agent to form chromosome pieces having ends within nuclei of the cells;

marking at least a portion of the ends within interphase nuclei;

counting a number of marked ends to analyze the effect of the disease on cells; and

comparing said number of marked ends to information obtained from a control group.

Sub D3 C4 16. (Thrice Amended) A method suitable for facilitating diagnosis of Alzheimer's disease, the method comprising the steps of:

exposing cells thought to be affected by Alzheimer's disease to a chromosome damaging agent;

exposing the cells thought to be affected by Alzheimer's disease to a chromosome breakage agent to form chromosome pieces having ends;

marking at least some of the ends within interphase nuclei;

measuring an amount of marked chromosome ends; and

comparing a number of marked chromosome ends present in the cells thought to be affected by Alzheimer's disease to information relating to a control group.

C4 cont

17. (Thrice Amended) The method suitable for facilitating diagnosis of Alzheimer's disease of claim 16, the method further comprising the steps of:

exposing cells thought to be unaffected by Alzheimer's disease to a chromosome damaging agent;

exposing the cells thought to be unaffected by Alzheimer's disease to a chromosome breakage agent to form chromosome pieces having ends;

marking at least some of the chromosome ends of cells thought to be unaffected by Alzheimer's disease;

measuring an amount of marked chromosome ends present within interphase nuclei thought to be unaffected by disease; and

determining diagnosis from said comparing step.

REMARKS

Claims 1-13 and 15-17 remain pending in the application. Claims 1, 8-11, and 16-17 have been amended. Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached paged is captioned "Version with Markings to Show Changes Made."

Applicant believes that in view of the foregoing amendments, all pending claims are allowable over the cited references. In particular, Applicant submits that none of the references cited in previous office actions teach or suggest marking or labeling interphase ends of chromosome fragments as set forth in the pending claims. Specifically, none of Cherry et al., Chen et al., Parshad et al., or a combination thereof, teach interphase marking or the marking of broken ends. Similarly, Marcon et al. does not directly analyze either the broken ends of the chromosomes or the broken ends of the DNA molecule. Furthermore, neither Marcon et al., nor

Gorczya et al. teach or suggest diagnosing human disease. Thus, the combination of Marcon et al. and Gorczya et al. with any other reference cannot teach or suggest the claimed invention, and indeed, Applicant submits that such references are nonanalogous art and should therefore be withdrawn as cited references.

Applicant therefore earnestly solicits allowance of pending claims 1-13 and 15-17. The undersigned would welcome a telephone call at the telephone number listed below if such would advance prosecution of this application.

Respectfully submitted,

By: _____

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